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ABSTRACT

This action research project implemented and evaluated a program to improve students' lack of effort and use of ineffective learning strategies. Participants were students in one kindergarten class, one second-grade class, one high ability fourth-grade class and one high ability fifth-grade class in a Midwest suburban school. Student and teacher surveys indicated the need to reduce six target behaviors: (1) reliance upon seeking help; (2) lack of metacognition; (3) failure to learn from mistakes; (4) quitting; (5) producing poor quality work; and (6) apathy. Goal-setting and self-evaluation techniques were implemented to improve self-efficacy in the students. Specific interventions included: (1) authentic evaluation (teacher observation checklists); (2) student self-evaluation; (3) student initiated academic goal-setting, and (4) student self- regulation of goal achievement. Specific interventions were implemented over a 12-week period. Improvement was measured by a series of student surveys and teacher observation checklists. In kindergarten and second grade, findings of the surveys and checklists indicated substantial improvement in the focus areas of persistence, problem solving, motivation, and accuracy. In fourth and fifth grades, findings of student surveys remained consistent, while the teacher observation checklists showed some improvement in the focus areas. (Nine appendices include the survey and checklist forms. Contains 17 references.) (HTH)

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ED 446 872

Motivating Students to be Self-reflective Learners through Goal-setting and Self-evaluation

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An Action Research Project Submitted to the

Graduate Faculty of the School of Education in

Partial Fulfillment of the Requirements for the

Degree of Arts in Teaching and Leadership

Saint Xavier University & Skylight

Field-Based Masters Program

Chicago, Illinois

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ABSTRACT

Students' lack of effort and use of ineffective learning strategies, observed in classrooms, was the problem that prompted this study. The study was conducted in a suburban school district with elementary students. Student and teacher surveys indicated the need to reduce six target behaviors: (a) reliance upon seeking help; (b) lack of metacognition; (c) failure to learn from mistakes; (d) quitting; (e) producing poōr quality work; and, (f) apathy.

Goal-setting and self-evaluation techniques were implemented to improve self-efficacy in the students. Specific interventions included (a) authentic evaluation (teacher observation checklists), (b) student self-evaluation, (c) student initiated academic goal-setting, and (d) student self-regulation of goal achievement. Specific interventions were implemented over a 12-week period.

Improvement was measured by a series of student surveys and teacher observation checklists. In kindergarten and second grade, results of the surveys and checklists indicated substantial improvement in the focus areas of (a) Persistence; (b) Problem Solving, (c) Motivation, and, (d) Accuracy. In fourth and fifth grades, results of the student surveys remained consistent, while the teacher observation checklists showed some improvement in the focus areas.

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CHAPTER 1

INTRODUCTION

Problem

It is evident in today's schools that students do not take responsibility for their own learning. "Students having difficulties tend to attribute failures to uncontrollable causes, such as their own lack of ability, task difficulty or teacher bias, and [attribute] successes to luck or help from the teacher" (Cullen,1985). Students' lack of effort and use of ineffective strategies, observed in the classroom, is the problem that prompted this study. This problem was personified in the following behavior patterns:

- Seeking help: Students have a tendency to seek help from classmates, teachers, and parents when attempting to solve problems prior to attempting to solve them independently.
- Lack of metacognition: When students are asked to explain their reasoning or "unpack their thinking", a familiar response is "I don't know." They are unable to understand their thought processes.
- Failure to learn from mistakes: Instead of viewing errors as a natural part of the learning process, they see them as irreversible failures.
- Quitting: Students show distress in the face of failure and tend to quit.
- Producing poor quality work: Students often rush through assignments forgetting to attend to quality or detail.
- Apathy: If class work has no relevance to students, they do not have a vested interest in the task and no transfer takes place.

These problems can be addressed in a variety of ways. The intent of the research team was to employ goal-setting and self-evaluation strategies to address the aforementioned behaviors, to see to what extent these behaviors can be alleviated or minimized. Preliminary inquiries suggested that teachers agreed that the most noticeably deficient areas were Persistence, Problem Solving, Motivation, and Accuracy.

National Context

The current social and business climate in the United States requires that its participants be self-aware and motivated to succeed. As the business world seeks eager workers, and parents strive to ensure their children's successes, schools are given the task of producing students who are able to evaluate their own learning and set goals for themselves. Today's parents clamor for ways to help their students achieve. This is evident in the recent increase in tutoring initiatives (Adler, 1998), and an interest in how to keep students motivated (Van Zuidam, 1997).

A 1993 article in Fortune Magazine indicates that major businesses contribute significant funding for educational programs, specifically those geared toward student motivation (Ramsey, 1993). "Community and business leaders constantly say, 'Give me an eager employee, and we can teach the work skills that are needed to be successful' " (White, 1997, p. 62). If students learn to monitor their own learning and effectively evaluate their own work, they will join the prepared work force of the future.

Educators are recognizing this need and rising to the challenge. "A recent survey, the Principal's View of Education Issues, by the National Association of Elementary School Principals, indicated that 97 percent of the respondents think it is 'important' or 'very important' to find ways to motivate students and maintain high expectations" (White, 1997, p. 62).

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Educational theories such as Glasser's Quality School and Ames' TARGET promote the idea of making students reflective self-evaluators:

> Self-evaluation refers to comparing one's progress with one's goal and judging whether progress is acceptable. We hear little about self-evaluation in education because teachers typically evaluate students; however, self-evaluation is a critical lifelong learning skill because motivation requires that students be aware of their progress and determines whether they should continue what they are doing or change their approach. Self-evaluation of progress substantiates self-efficacy for learning and promotes continued motivation. Students who do not know how to self-evaluate, must be taught a procedure for doing so.
> (Schunk & Cutshall, 1997)

This study implemented student self-evaluation strategies and examined the effects of student goal-setting, as a means to assist students to become self-reflective learners.

School Demographics

The targeted school is located in a suburb about 25 miles outside of a large midwestern city. The school holds kindergarten through fifth grade elementary students. Overall class size is 22.5 students per class. Students are generally grouped homogeneously to address academic abilities and special needs. As of September, 1997, student enrollment was 517. The distribution by class is as follows: 82 kindergartners, 104 first-graders, 83 second-graders, 86 third-graders, 87 fourth-graders, and 75 fifth-graders. The racial-ethnic composition of the school community, is 83.6 % Caucasian, 10.8% African American, 3.5% Hispanic, 2.1% Asian/Pacific Islander, and 0.0% Native American. Of this student population, 0.4% comes from low-income families.

The school building itself, first built in 1949, is basically a one-level structure composed of two academic wings, a library, a computer lab, a music room, an art room, an L.D. resource

room, and a gymnasium. The property includes two playgrounds and an athletic field. The typical school day begins at 8:45 a.m. and ends at 3:45 p.m. The faculty consists of 30 teachers, of whom 27 are female and 3 are male. This faculty is committed to professional growth and development; 50 percent of the faculty has a minimum of a Master's Degree or are currently working towards a Master's Degree.

The target group in this study encompasses one kindergarten class, one second-grade class, one high ability fourth-grade class, and one high ability fifth-grade class. Though curriculum content, classroom environment, and academic levels of the students varied, the same behaviors were targeted.

CHAPTER 2

PROBLEM DOCUMENTATION and RESEARCH

Probable Causes

Local and Immediate Causes

Student and teacher surveys (Appendices A, B, and C), administered at the beginning of Fall, 1999 indicated that some students were highly motivated and self-reflective, but the majority of students were not. The fact that some students were not considered to be self-evaluators was attributed to the fact that they had not been taught how to be so. This could be because in the past, assessment had been primarily a teacher-directed process. Evaluation in many classrooms consisted of multiple choice and fill-in-the-blank tests, with emphasis on student mastery of concepts or details rather than learning over time. Recently, district teachers have been making efforts to increase authentic assessment to help students become problem solvers.

The school Mission Statement echoes these needs as well. "The mission of [the district] is to challenge every student to pursue excellence in education to maximize his or her fullest potential. We will provide a learning environment where our students will acquire a broad-based education while developing critical thinking skills, life-long learning skills, and collaboration skills. Our goal is for our students to have gained the knowledge and self-confidence they will need to ensure their future independence as productive citizens" (1997 District Mission). Recent district initiatives involve dynamic grouping to address student needs. The district also sponsors teacher training, including incentives to stay current with educational practices (e.g., portfolio assessment, cooperative learning, multiple intelligence-based lessons, positive discipline and

brain-based learning). "If the goal is maximum performance for all students, the schools must provide hope to all students that increased effort can result in success" (Raffini, 1988, pp. 13-14 original italics).

Recommended Solutions

Would implementing self-evaluation strategies and goal-setting make students become reflective learners, oriented toward self-improvement, who produce quality work? A growing body of educational research suggested that it would. Research on student motivation has been classified into three areas that address: (a) learner characteristics, (b) teacher characteristics, and, (c) lesson characteristics (Rinne, 1997). This study focused upon learner characteristics as the prime factor in altering students' abilities to self-regulate learning. Interventions incorporated theories by several experts in education (e.g., Ames, Wiske, Glasser, Brophy, Schunk, Cutshall, and Goleman). Current theoretical constructs can be classified as follows:

- Evaluation

Ames' TARGET program addresses many aspects of the school environment and its effects upon student motivation. Brophy suggests that TARGET is a not a fixed program and that it can be adapted to suit student needs. After examining all aspects of the program, researchers decided to focus on the element of evaluation. Specifically, Ames recommends that the area of evaluation feature a variety of assessment instruments. These multiple assessments should have an emphasis on helping students recognize and appreciate their progress. This progress should be directed toward individually suitable goals. Evaluation should focus upon academic growth instead of public performance and acquired abilities. Evaluation should also provide opportunities for improvement, which encourages students to view their mistakes as part of

learning (Brophy, 1998). According to Wiske, assessment needs to be provided on an on-going basis, performance criteria needs to be negotiated early and explicitly with students, and goals for understanding need to be stated up-front (1994).

- Self-Evaluation

Glasser's vision of a quality school is one in which students and teachers are not adversaries but partners, working together to satisfy students' needs. It is one in which students produce quality work and do not settle for mediocrity. In a quality school, students become evaluators of their own work and create their own demanding goals. All of these are critical, if schools are to produce today the quality workforce of tomorrow (Glasser, 1998).

- Attribution Re-training

Brophy compiles many research ideas into a comprehensive theory designed to explain how to increase student motivation through self-regulated learning. This theory includes ideas about creating a classroom community, setting goals, and using effective praise and positive feedback. Most importantly, Brophy's ideas about attribution retraining are of interest in this study. Researchers will investigate whether students can reattribute counterproductive reasoning for academic successes and failures (e.g., lack of ability or teacher assistance), to productive reasoning (e.g., inadequate knowledge, inappropriate strategies, or insufficient effort), attributes over which they have more control. If students think that their progress is dependent upon their knowledge, effort and strategies, they can have more control over regulating their own learning (Brophy 1998).

- Goal-setting

According to Locke and Latham (as cited in Schunk and Cutshall, 1997), goal-setting is considered a key to benefiting student motivation. Furthermore, Schunk and Cutshall confirm that when teachers assist in setting realistic goals, students are more capable of attaining the goal because they know what they want to accomplish. Teachers must teach how to set goals and model the process needed to complete the task. Goals also provide standards with which to compare work and can provide feedback regarding competence and continued motivation for learning. Encouragement from the teacher throughout the process also enhances student motivation. By self-evaluating, students are also more likely to seek other methods in reaching the desired goal, as opposed to being locked into one dead-end method (Schunk, 1990).

- Self-regulation

There are five components of Goleman's theory of emotional intelligence (à) self-awareness; (b) self-regulation; (c) motivation; (d) empathy and (e) social skills. His research suggests that students' abilities to manage these emotional elements are indicators of academic, social, and lifetime success (Burke, 1999). The most germane components to this study are self-regulation (controlling impulsiveness) and motivation (hope and goal-setting). Based upon these ideas about emotional intelligence, this study will help students to set goals and regulate attainment of their goals.

Summary

In the past, teachers have noted that students felt that they were not in control of their learning. They needed to learn to retrace their steps to find mistakes or to figure out alternative ways of approaching a problem instead of giving up. Students instead should have attributed

their failures to insufficient effort, lack of information, or reliance upon ineffective strategies, rather than to lack of ability. Educators should develop students who have the skills to become active contributors to society, who are enthusiastic about what they have learned, and who are aware of how learning can be of use to them in the future. Students need to develop the ability to regulate their metacognitive processes. Goal-setting was viewed as an excellent means of facilitating student progress.

After examining relevant literature, the action research focused upon goal-setting and self-evaluation as a means to increase student motivation. Therefore, interventions implemented in this study helped students to utilize specific strategies to stimulate students' desire to attain knowledge and to take responsibility for their academic performance. The goal of this study was to increase the occurrence of self-monitoring behavior in students. Over the course of the study, students and teachers determined which factors influenced academic success and failure and whether student views changed as a result of the intervention.

CHAPTER 3

METHODOLOGY

Objective

The intent of this project was to decrease negative student behaviors and attitudes. These included: reliance on seeking help, lack of metacognition, failure to learn from mistakes, and quitting. Strategies (e.g., goal-setting, self-evaluation, pre/post goal-setting conferencing, and authentic assessment) were completed with the goal of increasing students' ability to self-regulate learning.

Population

The targeted population consisted of four groups of elementary students at one school. The groups were comprised of 18 kindergartners, 25 second-graders, 30 fourth-graders, and 25 fifth-grade students. The kindergarten class was assigned randomly, accounting for ethnic and gender equity. The second grade class was constructed by equally distributing students with special needs as well as students with high, average, and low academic abilities to create a heterogeneous classroom, also accounting for ethnic and gender equity. The fourth and fifth grade classes were comprised of the top quartile of reading students based upon a matrix of standardized testing (Iowa Test of Basic Skills), local assessments, and teacher recommendations.

Research Basis

Planning is a life-skill that helps students "learn to learn". The central part of the researchers' intervention was a goal-setting strategy based upon the acronym "S.M.A.R.T.", which stands for Specific, Measurable, Action-planned, Realistic, and Timely (Covey, 1997).

S.M.A.R.T. provided a step-by-step framework for students to follow as they set their own academic goals. Students were taught how to set and achieve meaningful and realistic goals, how to value their time, prioritize their work, make a plan of action, and make their plans become real.

Action Plan

Preliminary

Results from a teacher and student survey were used to determine the skills to be targeted. Also teacher observation checklists and student surveys were used to obtain baseline data. The following steps were necessary to initiate the interventions:

1. To determine student and faculty perceptions of student self-evaluation skills, the research team administered a survey to students and faculty (Appendices A, B, and C). Results allowed researchers to have a clearer picture of the baseline data and account for possible inconsistencies between student and faculty perceptions.
2. These data were collected and reviewed by the research team, to prioritize which student needs were to be addressed. Point values were assigned to each survey response. Responses were tallied and averaged. Researchers deemed that responses averaging less than 2.5 points required intervention, as shown in Figure 1 (p. 12). Qualifying questions were numbers 2, 3, 5, 6, 9, 11, 12, 13, 15 (see Appendix C). These questions dealt with problem solving, reliance upon seeking help, metacognition, learning from mistakes, quitting, poor quality work, and apathy. As a

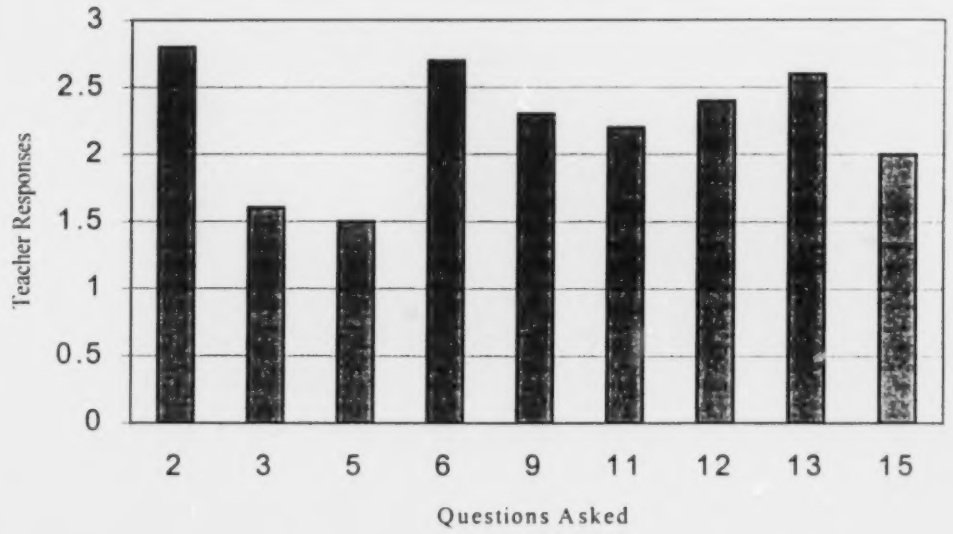

Figure 1: Teacher Survey Results (n=13)

result of the data analysis, teaching strategies were developed that addressed the needs prioritized by the survey.

3. Researchers completed an observation checklist on each student, specifying targeted behaviors.

Collective Implementation

Lessons were developed which incorporated goal-setting and self-evaluation strategies. These lessons included the following:

Weeks 1- 3: Setting the Tone

- Established a climate for goal-setting.
- Defined the meaning of goals through age-appropriate literature and discussion.

Weeks 4 -6: Teaching the Skills

- Taught how to set a goal using S.M.A.R.T. (Specific, Measurable, Action-planned, Realistic, Timely.)
- Set a group goal.
- Implemented steps to reach goal.
- Taught self-evaluation strategies through self-reflection and criteria checklists.
- Evaluated the group goal.

Weeks 7 - 12: Applying and Assessing the Skills

- Practiced setting goals with "S.M.A.R.T. Chart" (Appendix E).
- Set additional group or individual goals.
- Conferred with students to monitor progress toward goals.

- Students evaluated their own goals using age appropriate assessment tools

Kindergarten Implementation

The kindergarten class consisted of 18 regular education students, heterogeneously grouped. Goal-setting interventions were implemented in a project-based learning classroom. The setting involved students studying content-related subjects and applying what they learned and using the information to produce a project. The story, A Picture Book of Martin Luther King, was read to the students to create a climate for goal-setting and to compare dreams with goals. The children brainstormed different types of goals and how goals help people. Students were introduced to the goal-setting process by using the S.M.A.R.T. Chart. The students set a group goal using the S.M.A.R.T. Chart. After completing the group goal, students evaluated how well they did and suggested future improvements to be made. Due to the maturity level of the students and their experience with project-based learning, the teacher created group goals and action plans for each project with the students. This provided structure and criteria to ensure that students could successfully complete a project. Post goal-setting conferences were done with individual students using a self-evaluation checklist (Appendix F). During teacher/student conferences, students were given immediate feedback and were able to reflect upon their efforts and learning experiences. Students also noted improvements that could be made on future projects.

Second Grade Implementation

The second grade group was made up of 25 students in a heterogeneous setting with different levels and styles of learning. To set the tone for goal-setting, the story Leo the Late Bloomer was read to the class. Students brainstormed different types of academic goals that

would be accomplished in the future. The students were introduced to S.M.A.R.T. as a technique that would help them set up goals. The teacher modeled the use of the S.M.A.R.T. Chart (Appendix E) to help develop a whole class goal of cleaning the room. It allowed them to organize themselves, keep on task, and evaluate themselves at the end. Next, students were asked to write a goal for themselves that they could accomplish in a week using the S.M.A.R.T. Chart. Once students were comfortable with the process of using the S.M.A.R.T. Chart, they began to use it with the creative writing process. Every time a writing assignment was given, students would first fill out a S.M.A.R.T. Chart for a goal on which they wished to work. The teacher met with students for a pre-conference to discuss the goal and how they plan to reach it using the S.M.A.R.T. Chart. Upon completing their writing piece, students completed the self-evaluation sheet (Appendix F), and progressed to using the S.M.A.R.T. Target Rubric (Appendix G). The teacher conferred with students to discuss what worked, didn't work, and why. Students also reflected upon changes made during the process, what problems occurred, how problems were attacked, checked work for accuracy, and discussed how they felt about the process.

Fourth Grade Implementation

This class consisted of 30 students grouped according to academic ability. Students were read The Gem Story to set the tone for goal-setting. After reading the story, students thought about a goal they would like to achieve academically. Using the S.M.A.R.T. Chart (Appendix E), students made a step-by-step plan based on how they would accomplish their goal. These were displayed on a bulletin board to remind them of the goal toward which they were working. Next, students used the S.M.A.R.T. Chart to plan how they would achieve their

reading activities for the week. Upon completion, students looked back at their goals, recognizing where changes needed to be made. They continued to utilize the plan for each week's activities. Students then completed a S.M.A.R.T. Target Rubric (Appendix G), for self-assessment. Once students became acclimated with the S.M.A.R.T. Chart, they set up weekly individual goals for Writer's Workshop. Post-conferences were held to evaluate progress. Through written self-evaluation (Appendix F) and reflection (Appendix H), students made discoveries about their learning.

Fifth Grade Implementation

Goal-setting strategies were used with a fifth grade class of 25 high ability Language Arts students. The researcher worked with this class on an occasional basis, increasing from monthly (at the onset), to weekly toward the end. She had been the language arts teacher for the majority of these students during the previous school year. The classroom teacher was working with students to achieve the goal, but his efforts in this area were not documented. The following procedures indicate those performed by or with the researching teacher.

Initially, the class discussed their ideas of what a goal was, contributing ideas from their collective prior knowledge to a group web. To further set the tone for goal-setting, students contemplated the difference between goals and wishes as the teacher read a story called My Heart is Full of Wishes. Through discussion, the teacher introduced the components of a successful goal: Specific, Measurable, Action-planned, Realistic, and Timely. The teacher modeled how to set a goal using the S.M.A.R.T. Chart (Appendix E). Then the class set a group goal for making a class book. Students performed the steps to meet the group goal. Students then filled out a S.M.A.R.T. Target Rubric (Appendix G), to evaluate completion of the group

goal. Next, students used a S.M.A.R.T. Chart to create an individual goal for Writer's Workshop, to be completed throughout the second trimester. Students worked toward their goal for several weeks. At a mid-way point, the class discussed progress toward the goal. The class revised and refined their individual goals using a teacher created template. Writer's Workshop Goal for Second Trimester (Appendix I). They continued to work on their goals with weekly reminders. After the deadline, students discussed their progress with the researcher.

Evaluation-Assessment

To assess the effects of the goal-setting activities, student surveys and teacher observations were administered at the beginning and end of the study. Students were given time and opportunity to reflect about their own progress through self-assessment. Re-administration of the initial student survey and observational checklists provided information regarding which needs had been met throughout the intervention.

1. Both the initial survey and the observational checklist were again administered to the target classes.
2. Students reported failures and successes, analyzing why they occurred.
3. New data were then analyzed to determine if negative student behaviors decreased, whether students reattribute failures/success to effort, reflect upon learning, rely upon strategies, solve problems, and persist in tasks.

CHAPTER 4

PROJECT RESULTS

Historical Description of the Intervention

The objective of this action research project was to reduce six target behaviors (a) reliance upon seeking help; (b) lack of metacognition; (c) failure to learn from mistakes; (d) quitting; (e) producing poor quality work; and (f) apathy. The researchers involved in this study implemented a variety of strategies to accomplish the proposed objective. Interventions were conducted on a weekly basis for 12 weeks during language arts classes for all grade levels. The kindergarten and second grade teachers also integrated the interventions into science and social studies classes.

Initial data were collected through a student survey and a teacher checklist. Interventions were implemented based upon this data. Follow-up student surveys and teacher checklists were conducted and results were compared with initial data. The student survey (Appendix A) consisted of questions that were geared towards students' view of themselves as learners. The areas included were Persistence, Problem Solving, Motivation and Accuracy. Items #1, #4, #6, and #7 dealt with the area of Persistence. Item #2 pertained to Accuracy. Items #3, #9, and #10, dealt with Motivation. Items #5 and #8 were related to Problem Solving. Researchers desired results were to see an increase on all items except items #1, #6, and #9.

Results

Results of the data indicated the necessity for implementing several educational strategies. Interventions helped students implement specific strategies that stimulated their desires to attain knowledge and take responsibility for their academic performance.

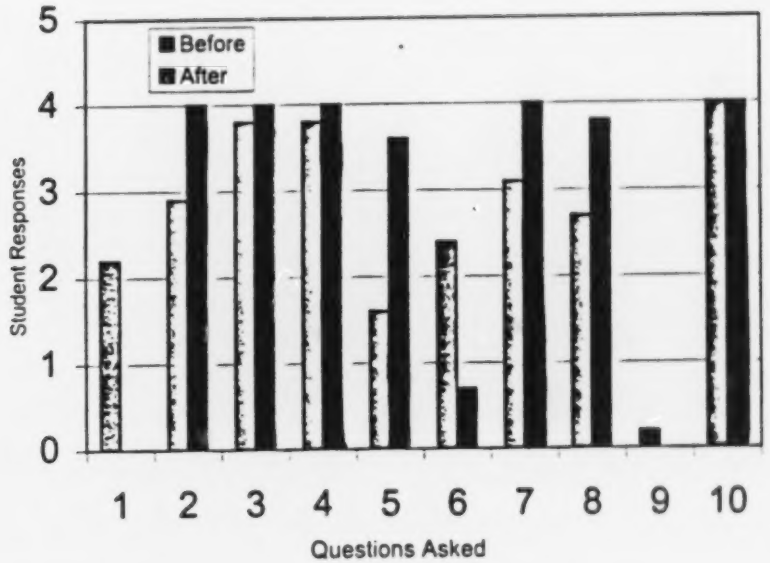

Figure 2: Kindergarten Student Survey Results (n=18)

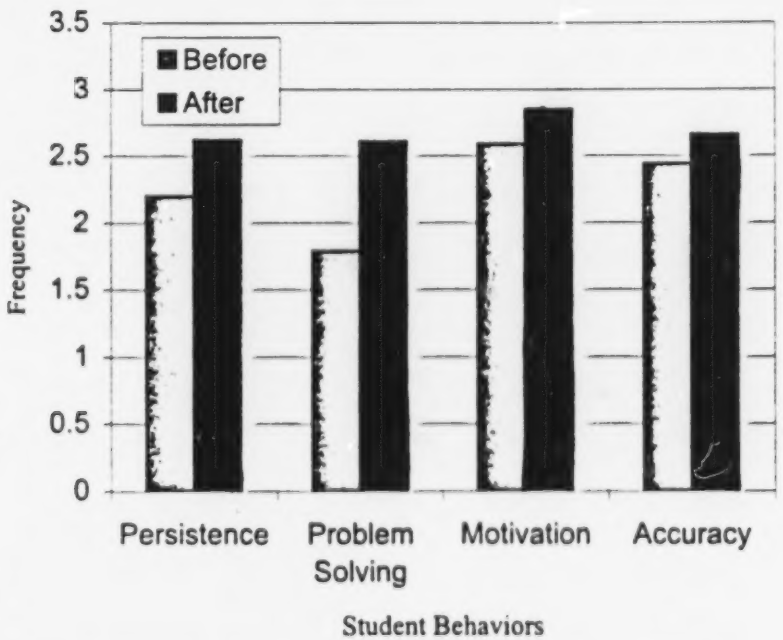

Figure 3: Kindergarten Teacher Observation Checklist Results (n=18)

Kindergarten Result

A student pre and post survey (Appendix B) was administered individually to 18 kindergarten students during the school day in September and in March. The survey consisted of 10 questions with a yes or no response. Due to the age level of students, items were read orally. A summary of the results of the September and March surveys are presented in Figure 2 (p. 19). Students' responses differed in September and March. Student's perceptions of themselves as learners improved. Students improved 32% in Persistence and 34% in Problem Solving. Students improved 4% in Motivation and 28% in Accuracy.

The teacher completed a pre and post observation checklist (Appendix D) in September and in March. A summary of the results is presented in Figure 3 (p. 19). Kindergarten students showed an overall improvement. The area of biggest improvement was Problem Solving, which increased by 27%. Persistence improved by 14% and Motivation by 9%. The area that showed the least improvement was Accuracy, which only improved by 7%.

Second Grade Results

A student pre and post survey (Appendix A) was administered individually to 25 second-graders during the school day in September and in March. The survey consisted of 10 questions with choice of responses ranging from always to never. Due to the age level of students, items were read orally. A summary of the results of the September and March surveys is presented in Figure 4. (p. 21). Students' responses differed in September and March. Overall, student's perceptions of themselves as learners improved. Students improved 6% in Persistence and 1% in Problem Solving. Students improved 20% in Motivation and 5% in Accuracy.

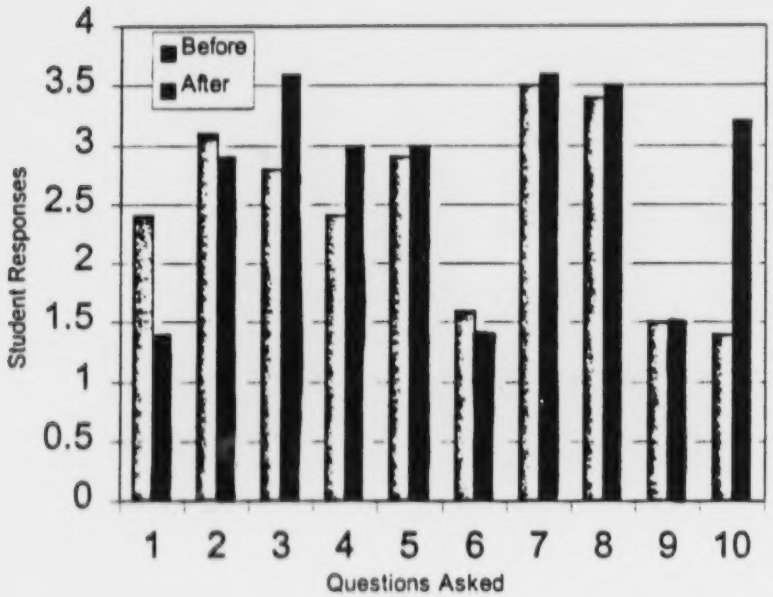

Figure 4: Second Grade Student Survey Results (n=25)

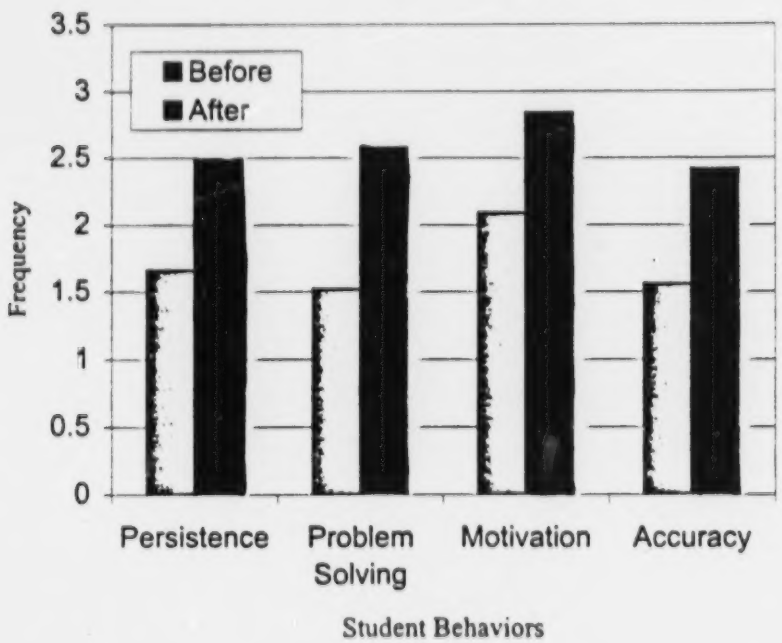

Figure 5: Second Grade Teacher Observation Checklist Results (n=25)

The teacher completed a pre and post observation checklist (Appendix D) in September and in March. A summary of the survey results is presented in Figure 5 (p. 21). Second grade students showed overall improvement. The area of biggest improvement was Problem Solving, which increased by 35%. Persistence improved by 27% and Accuracy by 29%. The area that showed the least improvement was Motivation, which nevertheless improved by 25%.

Fourth Grade Results

A student pre and post survey (Appendix A) was administered individually to 30 fourth graders during the school day in September and in March. The survey consisted of 10 questions with choice of responses ranging from always to never. Items were read orally due to the difficulty of the questions. A summary of the results of the September and March surveys are presented in Figure 6 (p. 23). Students' responses differed in September and March. Overall, students' perceptions of themselves changed. Students decreased in the area of Motivation by 1% and Accuracy by 5%. Students improved 6% in Persistence and 2% in Problem Solving.

The teacher completed a pre and post observation checklist (Appendix D) in September and in March. A summary of the survey results is presented in Figure 7 (p. 23). Fourth grade students showed overall improvement. The area of biggest improvement was Problem Solving, which increased by 21%. Persistence improved by 15% and Accuracy by 14%. The area that showed the least improvement was Motivation, which improved by 8%.

Fifth Grade Results

A student pre and post survey (Appendix A) was administered individually to 17 fifth graders during the school day in September and in March. The survey consisted of 10 questions with choice of responses ranging from always to never. Students completed the surveys silently

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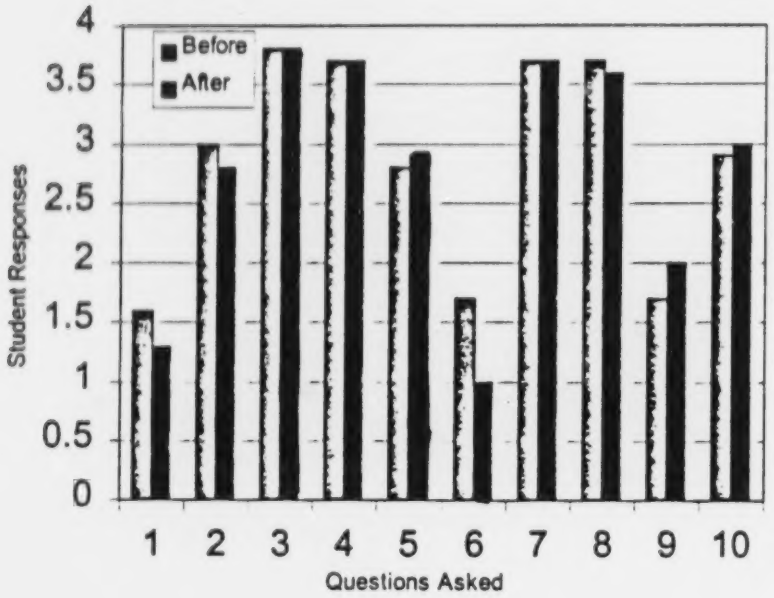

Figure 6: Fourth Grade Student Survey Results (n=30)

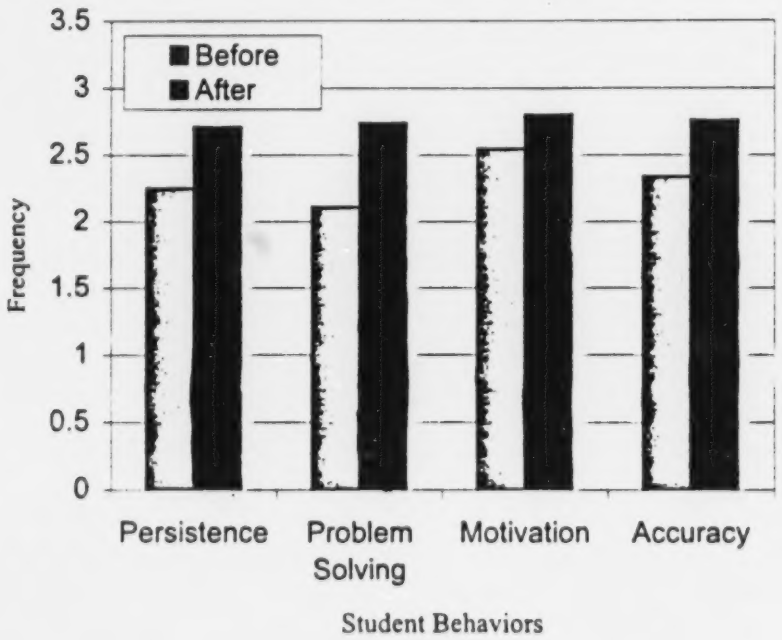

Figure 7: Fourth Grade Teacher Observation Checklist Results (n=30)

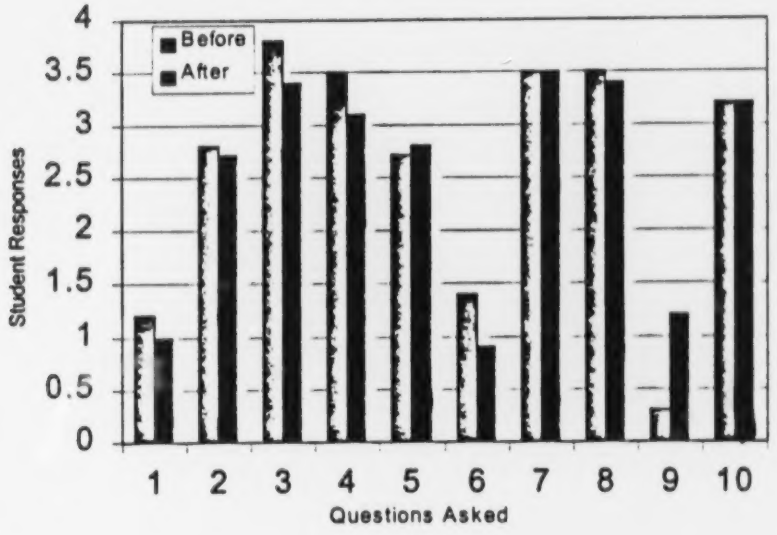

Figure 8: Fifth Grade Student Survey Results (n=17)

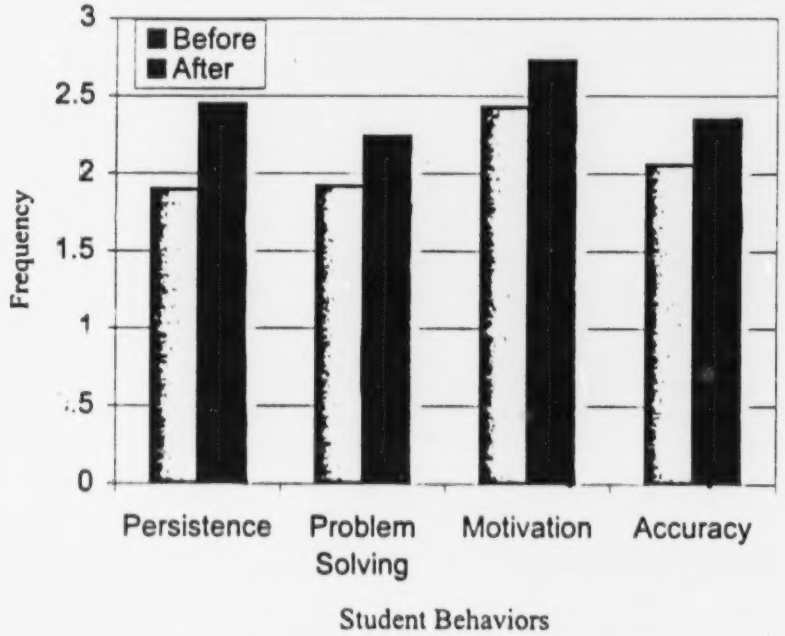

Figure 9: Fifth Grade Teacher Observation Checklist Results (n=17)

A summary of the results of the September and March surveys are presented in Figure 8 (p. 24) Students' responses differed in September and March. Overall, students' perceptions of themselves remained relatively consistent or worsened. Students improved in the area of Persistence by 2 % and remained the same in Problem Solving. Students' perceptions of their Accuracy decreased by 3%, whereas Motivation declined the most, by 10%.

The teacher completed a pre and post observation checklist (Appendix D) in September and in March. Results of the observation checklists are presented in Figure 9 (p. 24) Fifth grade students showed an overall improvement, according to the teacher checklist. The area of biggest improvement was Persistence, which increased by 18%. Problem Solving improved by 11%. Motivation and Accuracy each improved by 10%.

Discussion

Kindergarten

Overall, the interventions that were implemented worked well. Kindergarten students showed an improvement in Problem Solving, self-evaluation skills and Persistence. The goal-setting strategies learned appear to have transferred to responsible, independent behavior. The amount of teacher time spent on student responsibility was reduced. Students took more responsibility for their learning, attributed success to effort and relied less on the teacher for help. Students became more independent and managed their time well. The teacher observed a substantial improvement in Problem Solving, as shown in Figure 3 (p.19). This can be attributed to the S.M.A.R.T. Chart (Appendix E) action plan. Students set goals for projects and designed action plans to implement the goals. Students were given a step-by-step process on how to plan and prepare a project. Students referred back to the action plan when problems arose instead of

asking the teacher for help. The teacher also noticed a marked improvement in student self-evaluation skills. This is probably due to the teacher/student post goal-setting conferences. During the conference, students reflected about their work and made revisions. Motivation only improved slightly. This is due to the fact that kindergarten students are highly motivated when they enter school and usually remain motivated throughout the year. Due to maturity level and lack of appropriate skills, Accuracy showed only a slight increase.

Kindergarten students' perceptions of themselves as learners changed greatly in the areas of Problem Solving and Persistence shown in Figure 2 (p.19). The organizational skills learned during the goal-setting process increased self-efficacy in students. In May, they viewed themselves as better problem solvers and more persistent workers. Their view on Motivation and Accuracy remained consistent throughout the year. They felt happy in school, usually checked their work, and always tried their best.

Second Grade

Goal setting worked very well in second grade. The S.M.A.R.T. Chart action plan was modeled, taught, and implemented through guided practice to teach goal-setting. By using the S.M.A.R.T. Chart, all focus areas of the interventions were improved. Students became more independent, didn't seek help as often when a problem arose, were able to explain their thought process, and began to use their mistakes as learning tools. Accuracy had only a slight increase due to the fact that second graders lacked the skills and strategies to accomplish this. Most importantly, students became more motivated and engaged in tasks, as shown in Figure 5 (p. 21). The teacher attributed this to post goal-setting conferences where students were allowed to

evaluate their work subjectively and reflect on their learning process. In turn their self-concept, motivation, and enthusiasm continued to grow, which was reflected in their work.

Student's perception of themselves as learners varied. Students viewed themselves as motivated learners and better problem solvers, as shown in Figure 4 (p. 21). This can largely be attributed to the fact that students acquired many skills that they didn't have upon entering second grade. The S.M.A.R.T. Chart action plan also contributed to their success. It allowed students to create their own expectations, design a plan of action, and attribute their success and failure to effort and not to outside forces.

Fourth Grade

Overall using the S.M.A.R.T. Chart improved student problem-solving abilities, persistence and accuracy of their work. The results of the teacher observation checklists indicate that the biggest area of improvement was in the area of Problem Solving, as shown in Figure 7 (p.23). The S.M.A.R.T. Chart gave the students a strategy to use to organize their way of thinking. The majority of the high achievers in this fourth grade classroom already came equipped with the ability to set up a plan of action and follow through with it. The teacher observed that those students who lacked some organizational skills benefited most from this intervention. Using the goal-setting formats with fourth graders helped to give them an organized plan for their actions. The areas of Persistence and Accuracy had similar results, according to the teacher checklists. Because students were frequently required to reflect upon their actions, they were more aware of their progress and spurred to keep reaching for their goal. This heightened awareness also helped them to increase Accuracy. The slight difference in the

area of Motivation can be attributed to the fact that a group of high achievers, such as this one, usually starts off highly motivated, thus not allowing room for much improvement.

According to student survey results, children saw their biggest area of improvement to be Persistence, as shown in Figure 6 (p. 23). They recognized their ability to plan, follow through and complete an assignment. Similarly, many felt that they already had a mental plan and resisted using the teacher format. Therefore, they felt their problem solving ability did not change from beginning to end. These children were already self-confident in their abilities, so not much change was noted in Accuracy or Motivation. These areas actually decreased, probably because of the time of the year in which the post survey was given. Many students were getting ready to go on vacation or participated in the school play, which may have led students to be more distracted and unfocused. Student and teacher evaluations of the intervention were similar, overall.

Fifth Grade

Fifth grade students showed an overall improvement in all areas of focus for the intervention, according to the teacher checklist, as shown in Figure 9 (p. 24). The area of biggest improvement was Persistence. During lessons that used goal-setting strategies, students worked without much redirection. They were focused on trying to meet their goal within the time frame they had set for themselves. During class discussions, students showed an improvement in their ability to analyze a problem and determine a solution for it. They demonstrated this ability to solve problems when they had to revise their trimester writing goal. Motivation and Accuracy both improved. These areas were the highest areas on the initial checklist, so their percentage of growth would naturally be lower than the other areas; they increased in increments proportional

to Problem Solving. Because the researcher was not the regular classroom teacher, observations were done only during intervention lessons. This results in a higher incidence of engaged behaviors and self-checking behaviors. In general, the teacher checklist could have shown improvement, unlike the student surveys, due to the lack of objectivity of the researching teacher.

Overall, students' perceptions of themselves remained relatively consistent or worsened, as shown in Figure 8 (p. 24). This can be attributed to several factors. First, by fifth grade, student self-perceptions are relatively set. They have already formed a picture of how they perform as learners. The consistency of the pre and post surveys supports this assertion. Second, the timing of the post survey could have interfered with its accuracy. The post survey was given during the week before Spring Break, when students were also distracted by preparations for an all-school play. Poor timing is the most likely reason for a decrease in motivation. Third, because this was a class of high ability students, they probably started off high, showing little improvement in the dimensions of Problem Solving, Accuracy, and Persistence. Fourth, Students indicated some confusion about how the survey questions were worded. Their confusion may have resulted in inconclusive data.

Limitations

The researchers noticed several limiting factors while conducting the action research. Time constraints (12 weeks of intervention) and data collection tools (conferencing) were two major limitations in doing this action research. Also, a high volume of other curriculum didn't permit as much classroom time and or attention to be allocated to goal-setting. Similarly, the grouping patterns of the second, fourth, and fifth grades constrained how much each teacher was

able to reinforce goal-setting. Because students had a variety of teachers, the implementation of goal-setting was not pervasive throughout the students' experiences. This also affected the extent to which students/teacher rapport was developed before the intervention. Changes in the student/teacher relationship, such as an increase in trust, may have had detrimental effects on the survey results. The amount of one-on-one interactions with students made the recording and collection of data difficult. The format of goal-setting procedures proved to be too constricting to older, high ability children, who preferred to use their own methods or strategies to accomplish tasks. Also, there were several flaws in the student survey that may have skewed the data. To reduce the negative impact of these limitations, researchers have recommendations to revise the timing of the implementation and alter the data collection tools and methods.

Recommendations

Overall, longer implementation time would be beneficial. If the goal-setting strategies could be integrated into curriculum, instead of being left as a separate entity, more classroom time and attention could be devoted to the intervention without completing mandated curriculum. Researchers recommend that these strategies would be most effective if used if in self-contained classrooms. To further enrich their learning experience with goal-setting, it could be done as a school-wide program. Imbedding goal-setting into the curriculum and school practices would allow students to transfer the knowledge and skills they have developed to new experiences each year. If a foundation in goal-setting had been built in previous years, teachers would not succumb to the pressure to start the intervention before building relationships with their students.

Some adaptations to the data collection tools should be made. Because the data collection needed to be done on an individual basis, researchers suggest either revising the forms

to be more student friendly by using pictures with words, or having an aid or volunteer to assist during conferences. Another possibility for improving the reliability of the assessment tools is using a test format in addition to the student survey. This test format would elicit student knowledge and assess abilities in goal-setting. Because the results of the intervention relied heavily upon interpretation of the student surveys, the survey became an important tool to construct accurately. Researchers noted several survey errors. Questions should be stated in a consistent manner, seeking all positive (or negative) responses. The same number of survey questions should pertain to each of the areas of focus, to increase validity. The survey should be given orally, utilizing the same predetermined script of explanations. Researchers highly recommend conducting a trial survey beforehand to elicit errors that may be corrected and decrease inconclusive data.

Conclusion

Researchers will continue to implement the interventions throughout the school year. This project has had a positive impact on students' metacognition, self-evaluation strategies, and self-efficacy. Although results indicate that goal-setting and self-evaluation strategies worked better with younger children, all researchers deem that these interventions were valuable for students. Due to the positive effect of goal-setting, all researchers will continue interventions in upcoming years.

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Appendices

Appendix A

Student Survey Name_____

	Always	Usually	Sometimes	Never
1. When I have a hard question or a problem in class, I don't even try				
2. When I finish my work, I check to see if it's correct				
3. I always try my best				
4. If I can't get a problem right the first time, I just keep trying				
5. When I get stuck on a question, I can usually get it				
6. When I come to a problem I can't solve right away, I just give up				
7. When I have a hard problem or question in class, I keep trying				
8. When I run into a difficult question, I try even harder				
9. When I'm in school I feel bad				
10. When I'm in school I feel happy				

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Appendix B

Kindergarten Student Survey

Name _____

	Yes (Pre)	No (Pre)	Yes (Post)	No (Post)
1. When I have a hard question or a problem in class, I don't even try				
2. When I finish my work, I check to see if it's correct				
3. I always try my best				
4. If I can't get a problem right the first time, I just keep trying				
5. When I get stuck on a question, I can usually get it				
6. When I come to a problem I can't solve right away, I just give up				
7. When I have a hard problem or question in class, I keep trying				
8. When I run into a difficult question, I try even harder				
9. When I'm in school I feel bad				
10. When I'm in school I feel happy				

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Appendix C

Teacher Survey

	All	Most	Some	Few
1 When your students come to a problem they can't solve right away, they just give up				
2 When your students have a problem, they come to you for help instead of trying to solve it themselves				
3 When your students have a problem, they keep on working until they figure it out themselves				
4 When your students have a problem, they rely on others for help				
5 When your students are finished with their work, they check it over to see if they can improve it				
6 Students often rush to complete tasks				
7 Students produce work that shows their best effort				
8 Students produce work that is messy and has careless mistakes				
9 Students can explain their reasoning				
10 Students understand why their answers are correct				

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Appendix C, cont.

Teacher Survey (continued)

	All	Most	Some	Few
11. Students reflect on their learning				
12. Students discuss their learning experiences				
13. Your students view mistakes as failures				
14. When your students make mistakes, they go back and correct it				
15. When your students make mistakes they try different strategies				
16. Your students view mistakes as a lack of ability				
17. When your students are working in class they appear bored				
18. When your students are working in class they are involved				
19. Your students appear to be happy in school				
20. Your students are anxious in school				

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Appendix D

Observation Check List

Student:_____ Date_____

Assignment_____

Persistence	**Frequently**	**Sometimes**	**Not Yet**
Checks Work	_____	_____	_____
Revises Work	_____	_____	_____
Stays on task	_____	_____	_____
Problem Solving			
Identifies Problem	_____	_____	_____
Brainstorms	_____	_____	_____
Evaluates alternatives	_____	_____	_____
Motivation			
Enthusiastic about tasks	_____	_____	_____
Engaged in task	_____	_____	_____
Interested in learning	_____	_____	_____
Accuracy			
Computation correct	_____	_____	_____
Follows steps	_____	_____	_____
Checks answers	_____	_____	_____

Comments_____

_____

_____

_____

Appendix E

S.M.A.R.T. Chart

Name: _____ **Date:** _____

Goal: _____

_____

_____

What are the details?

S.
Specific

_____

How will I know I did it?

M.
Measurable

_____

What steps will I take?

A.
Actions

_____

Can I really do this?

R.
Realistic Yes / No

_____

When will I reach this goal?

T.
Timely When will I check in along the way?

_____

Appendix F

Student self-evaluation sheet
Goal setting post conference
Goal: _____
Date: _____
Name: _____

Did you complete the project?	YES	NO
Did you follow the action plan?	YES	NO
Did you complete the action plan on time?	YES	NO
Did you work neatly?	YES	NO
Did you need help?	YES	NO

What would you do differently next time?

_____

_____

_____

Appendix G

Name: _____ **Date:** _____

Goal: _____

Rubric for SMART goals				
Specific **S.**	Description was as clear as mud.	Description was a little foggy.	Description was written out in "black and white".	Description was crystal clear, leaving no room for questions.
Measur-able **M.**	Did not reach my goal	I reached my goal, but I have no proof.	I reached my goal and I have partial proof.	I reached my goal and I have concrete proof.
Action Plan **A.**	Did not follow all steps	I followed some steps.	I followed different steps than my plan.	I followed my plan or revised the steps as I worked.
Realistic **R.**	I aimed for something that is not in my control.	I dreamt an impossible dream; too hard	Piece of cake; too easy	I struck a perfect balance.
Timely **T.**	I don't know if or when I'll finish.	I finished late.	I got behind, but I caught up.	I stayed on schedule to be on-time or even early.

Appendix H

Name_____ Date_____

Self-Evaluation

1. What was your goal?_____

_____
_____
_____

2. Did you reach your goal? How?_____

_____
_____
_____
_____

3. Was your goal realistic?

Yes No

4. Things I did well._____

_____
_____
_____

5. Things that I had a hard time with._____

_____
_____
_____

6. What is your next step/goal?_____

_____
_____
_____
_____

Appendix I

Writer's Workshop Goal for the___Trimester

Specific

- In the ___ trimester, I will go through the Writer's Workshop process 3 times. My 1st piece is ___ page(s). It is in the format of _____ and is about _____. My 2nd piece will be ____ page(s). It will be in the format of _____ and will be about _____ _____. My 3rd piece will be ____ page(s). It will be in the format of _____ and will be about _____.

Measurable

- At the end I will have written 3 finished pieces totaling no less than 3 final draft pages. A final draft is typed in double spaced 12 point font or written in single spaced cursive with black ink.

Action-planned

Each time I go through the writing process, I will brainstorm, write a rough draft, revise, edit, and finalize. Note: The rough draft writing must be done in class.

Realistic

- Yes

Timely

- Goal is set to be accomplished by _____.

1st piece	Week of____ - Rough Work 1
	Week of____ - Rough Work 2
	Week of____ - Peer Edit
	Week of____ - Volunteer Edit/ Rough Work 1
2nd piece	Week of____ -Rough Work 2
	Week of____ - Peer Edit
	Week of____ - Volunteer Edit/ Rough Work 1
3rd piece	Week of____ - Rough Work 2
	Week of____ - Peer Edit
	Week of____ - Volunteer Edit

Student _____ **Date** _____
Teacher _____ **Parent** _____

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